

USER MANUAL

# CASSETTE FAN COILS

**SF-08C, SF-12C, SF-16C**





## CONTENTS

1. Safety cautions .....	1
2. Names and functions of parts .....	1
3. Operation of remote control .....	2
3.1 Guide for operation-general operation .....	5
3.2 Guide for operation-optional operation .....	5
3.3 Introduction for special function .....	5
3.4 Changing batteries and notices .....	6
4. Trouble shooting .....	7
5. Installation accessories .....	8
6. Selection the mounting position .....	9
7. Installation .....	10
7.1 Installation of drainage pipe .....	10
7.2 Precautions for drainage raising pipe .....	11
7.3 Connection of the motorized valve .....	11
7.4 Check if drainage water flows smoothly .....	12
7.5 Electric wiring .....	13
7.6 Installation of panel .....	13
8. Test operation .....	15
8.1 Prepare for test .....	15
8.2 Testing .....	15
8.3 Emergency operation .....	16

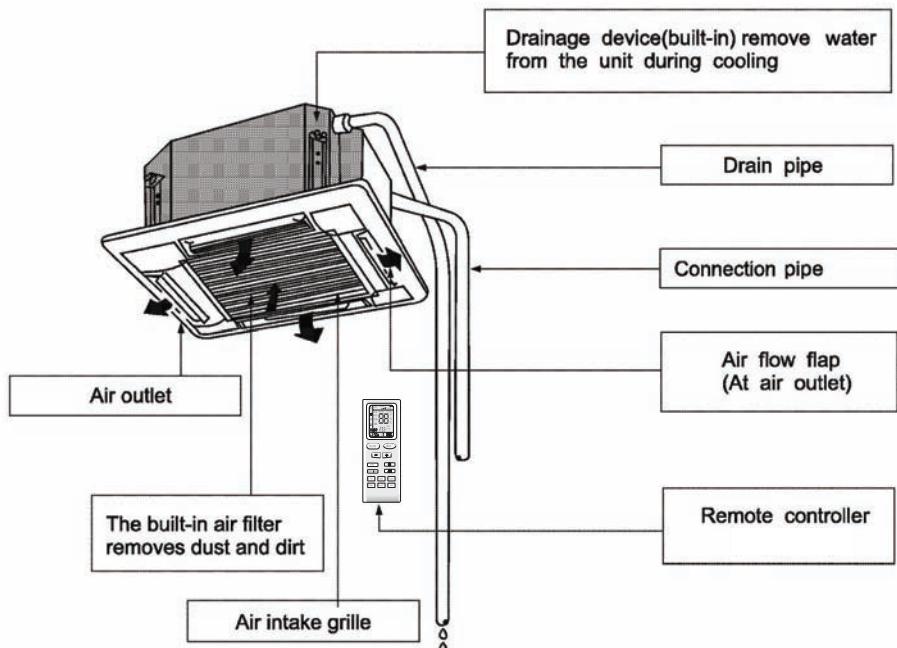
## 1. Safety cautions

Read the following carefully to assure safe use.

### Warning

- ◆ Avoid direct air flow to your body and avoid excessive heating or cooling, which may make you feel uncomfortable and do harm to your health.
- ◆ If there is something abnormal(eg.burning smell), cut off the power immediately and contacts service center.
- ◆ Do not spray paint or pesticide on the unit ,or it may cause fire.
- ◆ If room air is stuffy, air the room by opening door and window for a while, but please close the curtains when operating the unit to prevent conditioned air from leaking.
- ◆ Never use wrong ampere rating fuse. Use of iron wire or copper wire may cause the unit to break down or cause fire.
- ◆ Do not check or repair during the unit is operating. It is very dangerous.
- ◆ Do not splash water directly to the unit. It may cause trouble or electric shock.
- ◆ Do not use other heating equipment near the unit. It will affect the cooling performance.
- ◆ Do not bang the remote controller, and do not press the button of the remote controller with pointed object, or the remote controller may be damaged.
- ◆ An air switch having a contact separation of at least 3mm in all poles should be fixed in fixed wiring.

## 2. Names and functions of parts



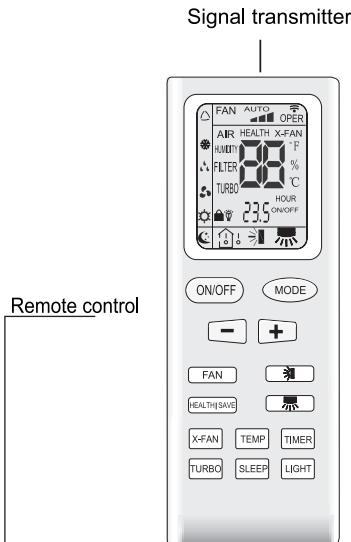
### Working mechanism:

The temperature and humidity of the air are changed by the heat exchanging between the water

in the heat-exchanger and the air flowing through the surface of the one, so that, the demand of the air condition is attained. This production is only an indoor unit, the running mode is decided by the temperature of the environment and the running mode of the water system.

### 3. Operation of remote control

Note: Be sure that there are no obstructions between receiver and remote control; Don't drop or throw the remote control; Don't let any liquid in the remote control and put the remote control directly under the sunlight or any place where is very hot.



Remote control

ON/OFF

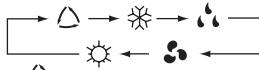
ON/OFF button

- Press this button, the unit will be started or stopped, which can clear the timer or sleeping function of last time.

MODE

Mode button

- Press this button, the running mode will change as below.



AUTO

COOL

DRY

FAN

HEAT (Note: no for cooling only unit)

(+/-)

TEMP. (+/-) button

- When press +button, the setting temp. will be increased by 1°C. When press -button, the setting temp. will be decreased by 1°C. The temp. will be changed quickly by pressing the button continuously and setting temp. range is 16~30°C.

FAN

FAN speed button

- Press this button once, fan speed will change as below:



Low speed      Middle speed

High speed

Note: Under the Dry mode, the fan speed isn't adjustable, low fan speed is imperative, but when operating this button, the wireless remote control will send this signal.

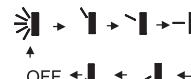


Swing up and down button

- Simpleness swing mode is defaulted for wireless remote control, in this mode, press this button, could turn on or turn off the Up and down swing function.

- When unit is turned off, synchronously press "+" and Up and down swing buttons, it could be switched between the simpleness swing mode and stationary swing mode, at this time, the icon blinks 2 seconds.

- In Stationary swing mode, press this button, the angle for Up and down swing as show in below:



- When up and down swing louver is working, when turn off the unit, the swing louver will immediately stop at current position. The icon shows up and down swing louver swings back and forth as show in the above figure.

NOTE: This Remote control is universal, it could be used for many units, some buttons of this control which are not available to this unit will not be described below.

Remote control



HEALTH|SAVE

HEALTH|SAVE button

- **HEALTH function:** there is no this function for this unit. If press this key, the main unit will click, but it also runs under original status.
- **Save energy function:** this unit has no this function, press this button, the main unit will click, "SE" will be displayed on the LCD of wireless remote control, fan speed automatically rotates, when repress this button, the fan speed will run at previous setting fan speed.

TURBO

Turbo button

- Set turbo on or off(the characters of turbo will appear or disappear ) by pressing this key under cooling or heating mode. Once energized, the unit will be defaulted to be turbo off. This function can not be set under auto, dehumidify or fan mode, and characters of turbo won't appear.

TIMER

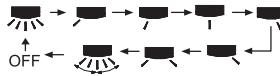
Timer button

- On the status of the unit on, press this button to set timer off. On the status of the unit off, press this button to set timer off. Press this key once, words Hour on/off will appear and flicker. In which case, press +/- button to adjust time (press +/- button continuously to change timing value quickly), the setting time range is from 0.5 to 24 hr.; press this key once again to fix the time, then remote controller will send out the signal immediately and hour on/off will stop flickering. If the time of that no press timer button under flickering status is above 5s, the timer setting will quit. If the timer has been set, press this button once again to quit it.



Left and right swing button

- Simpleness swing mode is defaulted for wireless remote control, in this mode, press this button, could turn on or turn off the Left and right swing function
- When unit is turned off, synchronously press "+" and Left and right swing buttons, it could be switched between the simpleness swing mode and stationary swing mode, at this time,  blinks 2 seconds.
- In Stationary swing mode, press this button, the angle for Left and right swing as show in below:



- When left and right swing louver is working, when turn off the unit, the swing louver will immediately stop at current position.  shows left and right swing louver swings back and forth as show in the above figure.

NOTE: This remote control is universal, it could be used for many units, some buttons of this control which are not available to this unit will not be described below.

Remote control



SLEEP

Sleep button

- Press this button, enter into SLEEP state, when repressed, it will quit. The sleep function will be canceled with the stop of the unit. There is no SLEEP function under AUTO and FAN mode.  is the icon for sleep function.
- At COOL, X-FAN mode: the SLEEP mode runs after 1hour, the setting temp. will be increased by 1°C, 2 hour later, setting temp. will be increased by 2°C and then will run at this setting temperature.
- At HEAT mode: the SLEEP mode runs after 1hour, the setting temp will be decreased by 1°C, 2 hours later setting temp. will be decreased by 2°C, then it will run at setting temperature.

X-FAN

X-FAN button

- Pressing X-FAN button in COOL or DRY mode, the icon "X-FAN" is displayed and the indoor fan will continue operation for 10 minutes in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN and HEAT mode.

Note: X-FAN is the alternative expression of BLOW for the purpose of understanding.

LIGHT

Light button

- Press this button to select LIGHT on or off in the display. When the LIGHT on is set, the icon  will be displayed and the indicator light in the display will be on. When the LIGHT off is set, the icon  will be displayed and the indicator light in the display will be off.

TEMP

Temp. display button

- After powered on, displaying presetting temperature is defaulted, (According to customer requirements to display, if there are no requirements, the presetting temperature displaying is defaulted, there is no signal display on the remote control). Press this button, (display ), display the presetting temperature; (display ), display indoor ambient temperature,  will not change current display status. If current display status is indoor ambient temp. when received other remote control signal, then will display presetting temp., 5s later return to ambient temp. display. Other models haven't this function. But pressing this button, the main unit will click and keep the original status.

### 3.1 Guide for operation-general operation

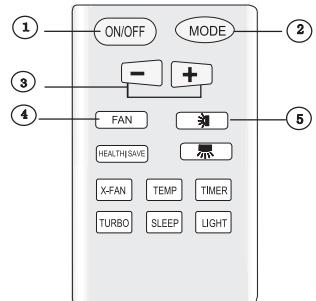
① . Press ON/OFF button to start the unit after powering the main unit on.(Note: Power the unit on every time, the big-guide louver and small-guide louver will be closed firstly.)

② . Press MODE button to select desired running mode.

③ . Press +/- button to set the desired temperature.(It is unnecessary to set the temperature at AUTO mode)

④ . Press FAN button to set fan speed, the AUTO FAN,LOW, MID or HIGH could be selected.

⑤ . Press  and  button to set swing mode.



### 3.2 Guide for operation-optional operation

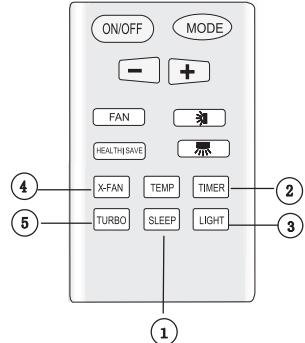
① . Press SLEEP button, set the sleep mode.

② . Press TIMER button, then press +/- button, to set the scheduled timer on or timer off.

③ . Press light button to control display light on or off.

④ . Press X-FAN button to set X-FAN function on or off.

⑤ . Press turbo button to set this function on or off.



### 3.3 Introduction for special function

- About X-FAN function

This function indicates that moisture on evaporator of indoor unit will be blown after the unit About X-FAN function is stopped to avoid mould.

Having set X-FAN function on: After turning off the unit by pressing ON/OFF button indoor fan will continue running for about 10 min. at low speed. In this period, press X-FAN button to stop indoor fan directly.2. Having set X-FAN function off: After turning off the unit by pressing ON/OFF button, the complete unit will be off directly.

- About AUTO RUN

When AUTO RUN mode is selected, the setting temperature will not be displayed on the LCD, the unit will be in accordance with the room temp. automatically to select the suitable running method and to make ambient comfortable.

- About turbo function

If start this function, the unit will run at super-high fan speed to cool or heat quickly so that the ambient temp. approaches the preset temp. as soon as possible.

- About lock

Press + and - buttons simultaneously to lock or unlock the keyboard. If the remote controller is locked, the icon  will be displayed on it, in which case, press any button, the mark will flicker for three times. If the keyboard is unlocked, the mark will disappear.

- About switch between Fahrenheit and Centigrade

Under status of unit off, press MODE and - buttons simultaneously to switch °C and °F.

- About new function of defrosting

It indicates: after starting this function by remote controller and the unit has been under defrost

status, If turn off the unit by remote controller, the unit will not stop defrosting until it is finished; if change setting mode by remote controller, the function ,which is set last time, won't be carried out until defrosting finished.

Operation of this function on or off: If remote controller is under off status, press mode button and X-FAN button simultaneously in order to enter or cancel this new function. If the unit is under defrost mode, dual eight position on remote controller will display H1.If switch to heat mode, the position will display H1, which flickers for 5s, in which case, press +/- button, H1 will disappear and setting temp. be displayed.

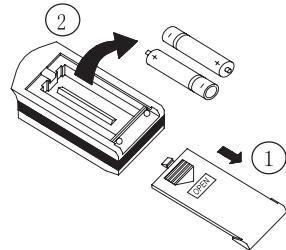
After remote controller is powered on, the new defrost function will be defaulted to be closed.

### 3.4 Changing batteries and notices

① . Slightly to press the place with  along the arrowhead direction to push the back cover of remote control.(As show in Fig. ① )

② . Take out the old batteries, insert two AAA alkaline cells.(AS show in Fig. ②③ )

③ . Attach the back cover of remote control.(Fig. ④ )



#### NOTE:

◆ When changing the batteries, do not use the old or different batteries, otherwise, it can cause the malfunction of the wireless remote control.

◆ If the wireless remote control will not be used for along time, please take them out, and don't let the leakage liquid damage the wireless remote control.

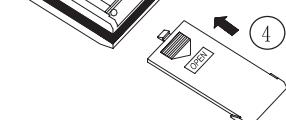
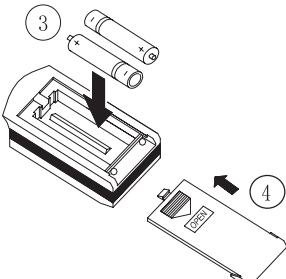
◆ The operation should be in its receiving range.

◆ It should be placed where is 1m away from the TVset or stereo sound sets.

◆ If the remote control cannot operate normally, please take the batteries out, and then reinsert it 30s later; if it is also abnormal ,please replace the batteries.

◆ If the main unit needs to be remote controlled, please aim remote control at the receiver of main unit in order to improve the receiving sensitivity of the main unit. When the remote control sends out signal, a mark  will flicker for about 1s. The bell will ring if the main unit receives effective signal.

◆ When the remote control sends out signal, a mark  will flicker for about 1s. The bell will ring if the main unit receives effective signal.



## 4. Trouble shooting

### Warning

◆ In case of something abnormal(such as bad smell), shut the power switch immediately and contact service center. Do not repair the air conditioner by yourself, because wrong repair may cause fire, please contact service to do it for you.

◆ Check item shown below before contacting service center.

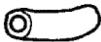
Symptom	Cause	Corrective Measures
The system dose not operate at all.	Pause off or fuse broken.	Change pause or replace fuse.
	Power off	
	Loose plug	
	Batteries of remote controller fail.	Replace batteries.
	Out of the remote controller range.	Keep distance in 8m or less.
	The mode is wrong.	Check the operation mode of the unit.
Cooling and heating is Abnormal.	Object at the air intake and air outlet of the unit.	Remove them
	Wrong temperature setting.	Refer to P 5
	Low fan speed.	Refer to P 5
	Air direction is not correct.	Refer to P 5
	Doors or windows are open.	Close them
	Direct sunshine.	Close the curtain or windows blind.
	Too many heating sources.	
	Too many people in the room.	
	Dirty air filter.	Clean it.
	Water flow volume lower.	Check the water-system and valve.
	The temp of water is higher or lower.	

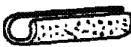
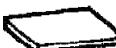
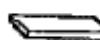
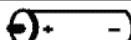
**NOTE:** If trouble still exists after checking the above items, please contact service center.

- ◆ The following are not troubles

Trouble		Cause
The unit does not operate.	Restart right after stopping	Once the unit is turned off, it will not operate for about 3 minutes to protect it.
	Press SET TEMP. and then release immediately.	
	Power is switched on.	Wait for 1 minute.
Mist is emitted.	When cooling.	Room air is chilled rapidly and will turn low after 1 minute.
Noise	Buzz is heard at starting.	It is the starting sound of thermostat and will turn low after 1 minute.
	A "such" sound which is heard at the start or immediately after the stop of operation or which is heard at the start or immediately after the stop of defrosting Operation.	
	A continuous low :shah sound is heard when the system is in cooling operation or at a stop.	This is the noise of water caused by flow stop and flow change. The noise is heard when the drainage pump is in operation.
	Cracking noise can be heard during or after operation.	This is caused by the panel expanding or contracting due to the change in temperature.
Dust from the units	Starting operation after not using for a long time.	Dust absorbed by the unit blows out.
Wind from the outlet smells.	During operation.	This is caused by the odors in the room which have gotten onto the unit.

## 5. Installation accessories

No.	Name	shape	quantity	specification	Notes
1	Draining hose		1		For pipe joints
2	Clamp		1		
3	Nylon fastener		4	L=200	
4	Washer		10	10	
5	Paper pad for installation		1		
6	Screws		4	ST4.8×13.F	Use for Paper pad for installation

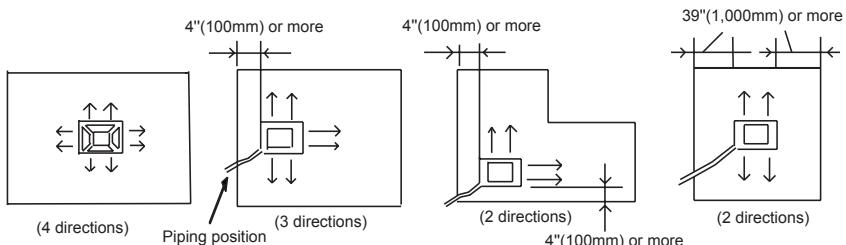
7	Heat reservation sponge for pipe		2		Encase the tie-in
8	Big sealing pad		1	5×160×300	
9	Sealing pad		1	5×45×300	
10	Small sealing pad		2	5×30×150	
11	Sealing bar		1	120×65×25	
12	PVC tape		1	30×10	
13	Screws		8	ST4.2×9.5PA	
14	Remote controller		1		For mounting the remote control
15	Battery		2	AAA1.5V	For remote control

## 6. Selection the mounting position

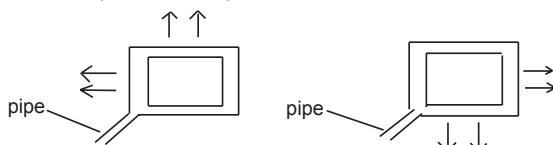
(1). Especially, the installation place is very important for the fan coil unit because it is very difficult to move from place after the first installation.

(2). Decide the mounting position together with the customer as follows:

(3). The discharge direction can be selected as shown below.



Since 2-way outlet causes performance problems, do not set it.



(4). Install the indoor unit on a place having a sufficient strength so that it will stand against the

weight of the indoor umt

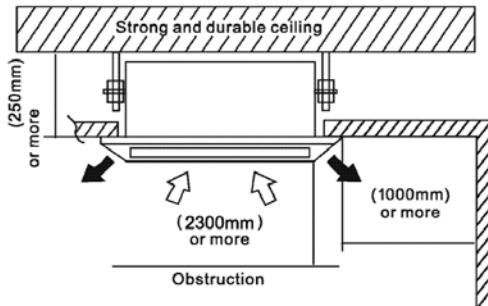
(5). The inlet and outlet ports should not be obstructed; the air should be able to blow all over the room.

(6). Leave the space required to service the air conditioner.

(7). The ceiling rear height is 9-3/8 " inches(250mm) or more.

(8). A place from where the air can be distributed evenly throughout the room by the unit.

(9). A place from where drainage can be extracted outdoor easily.



## 7. Installation

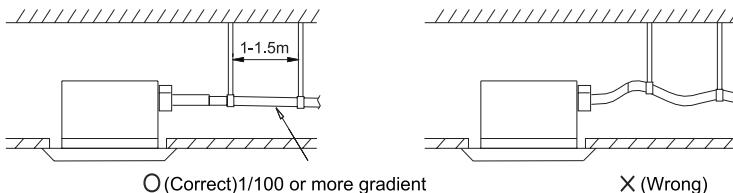
### 7.1 Installation of drainage pipe

(1). The diameter of the drainagc pipe should be greater than of equal to the diameter of the conncting pipe[vinyl tube,pipe size:25mm(outer dimension)]

(2). Keep the drainage pipe short and sloping downwards at a gradient of at least 1/100 to prevent air pockes from forming .

(3). If the drainage hose cannot be suficiently set on a slope,add a drainage raising pipe.

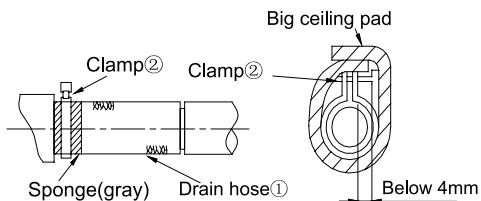
(4). To keep the drainage hose from sagging,keep space between hanging hooks at l~1.5m.



(5). Use the attached drainage hose ① and clamp ② . Insert the drainage hose into the drainage socket up to the grey tape.Tighten the clamp until the screw head is less than 4 mm from the hose.

(6). Wrap the big sealing pad around clamp of the drainage hose to insulate.

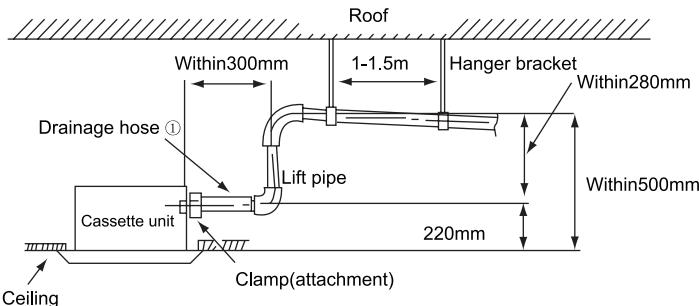
(7). Insulate the drainage hose inside the room.



## 7.2 Precautions for drainage raising pipe

Install the drainage raising pipe at a height of less than 280mm.

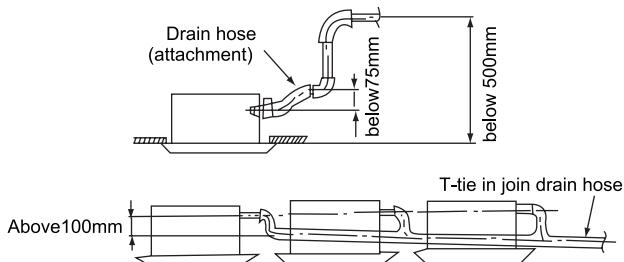
Install the drainage raising pipe at a right angle to the indoor unit and no more than 300 mm from the unit.



Note:

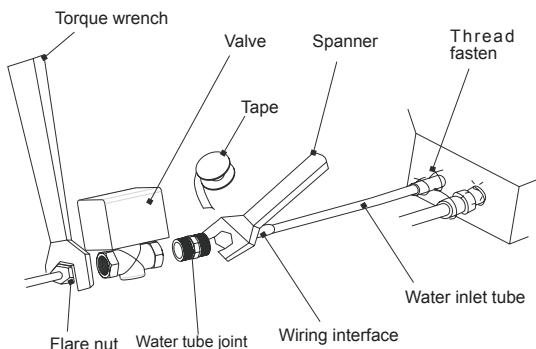
The incline of attached drain hose ① should be 75mm or less so that the drainage socket does not have to stand additional force.

If converging multiple drainage pipes, install according to the procedure shown below.



Select converging drainage pipes whose gauge is suitable for the operating capacity of the unit.

## 7.3 Connection of the motorized valve



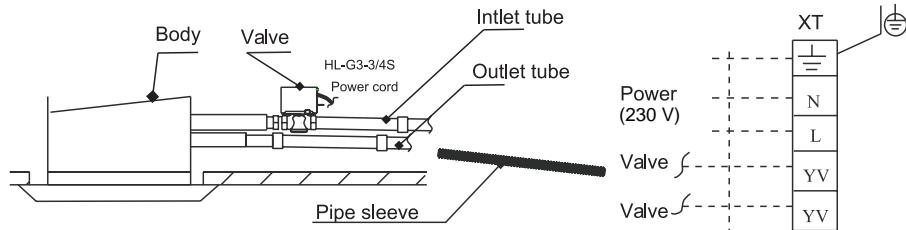
(1). The installation of the motorized valve should be done according as Fig.2: firstly connect one end of the tube joint with the water inlet tube of the unit, then connect the other end with the

motorized valve, and lastly connect the motorized valve with the flare nut. During the installation, both the torque wrench and the spanner should be used and the moment of torque should be within 90 N.M. Besides, a secure connection should be guaranteed.

(2). Both the tube joint and the motorized valve are G3/4" threaded. Prior to the connection, it is recommended to wrap the Teflon tape on the thread for better sealing effects.

(3). After the tube joint, motorized valve, water inlet tube, water outlet tube are connected reliably, start the water pump of the outdoor unit to check if they leak or not.

(4). What should be done lastly is wrapping sponge around the motorized valve and the tube for heat insulation.



(5). After the installation of the water tube and motorized valve is finished, connect the wire of the motorized valve to the wiring board inside the unit .

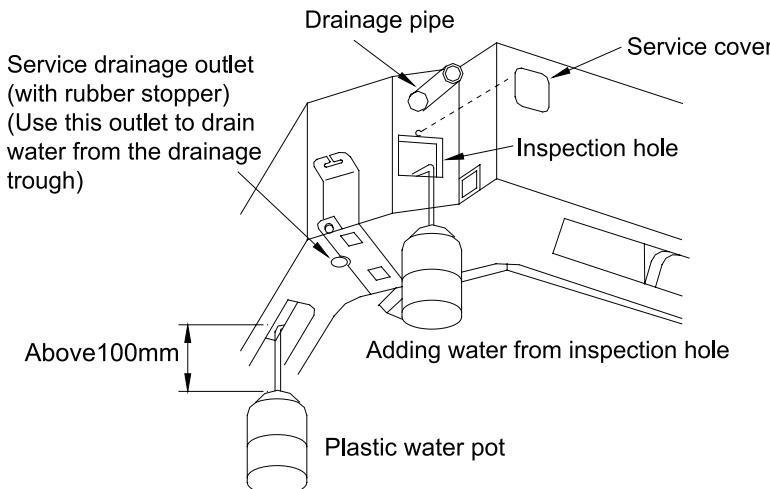
Attention: the wire must be constricted by the heat-shrinkable stub pipe and go through a PVC bushing.

(6). When the wiring is completed, take a careful check and then start the water pump and unit to see if the motorized valve works normally or not.

#### 7.4 Check if drainage water flows smoothly.

Add approximately 600 cc of water to the drainage trough through air outlet or inspection hole slowly and check drainage flow.

When electric wiring is finished. check drainage flow during cooling operation.



Warning: Before obtaining access to terminals, all supply circuits must be disconnected.

## 7.5 Electric wiring

- (1). All field supplied parts and materials must conform to local laws and regulations.
- (2). For electric wiring, refer to "WIRING DIAGRAM" attached to the unit body.
- (3). A1I wiring must be performed by a skilled technician.
- (4). A circuit breaker capable of shutting down power supply to the entire system and which have at least 3 mm contact separation in each hole must be installed in the fixed wiring.
- (5). Earth properly.
- (6). Wiring must conform to national laws and regulations.
- (7). The fixed wiring must be installed with a protector with not more than 30mA leakage current.
- (8). If the supply cord is damaged, it must be replaced by the manufacturer or its service agents or a similarly qualified person in order to avoid a hazard.

### 7.5.1 Wiring of the indoor unit.

Remove the control box lid (1), pull the wires inside through rubber bush I and wiring according to the "WIRING DIAGRAM" then tighten it with clamp.

### 7.5.2 Wiring of the controller

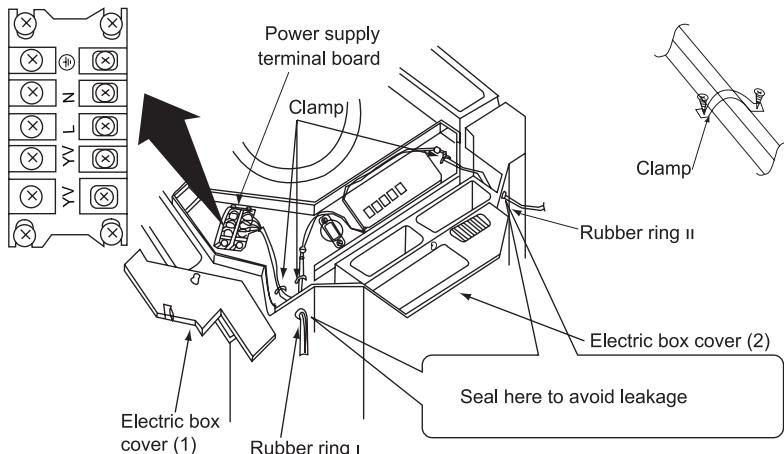
Remove the control box lid (2), pull wires inside through rubber bush II and connect to the controller.

Wrap the wire with sealing pad (12).

After wiring tighten it with clamp and fix the control box lid (1),(2).

Heating and cooling: connect the rubber wire (5-cords) to the power supply terminal board in properly.

Cooling: connect the rubber wire (3-cords) to the power supply terminal board properly.



## 7.6 Installation of panel

- (1). Set the panel to the indoor unit body by matching the position of the swing flap motor of the decoration panel to the piping position of the panel to the piping position of the indoor unit .
- (2). Install the decoration panel

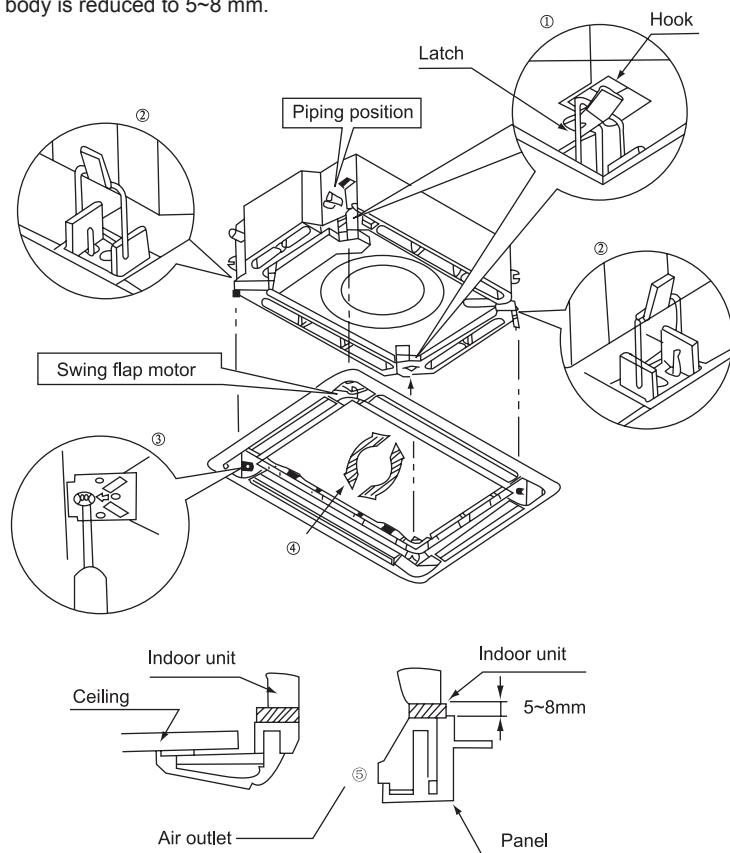
(3). Hang the latch, which is located on the opposite side of the swing flap motor on the panel, temporarily to the book of the indoor unit. (2 Positions)

(4). Temporarily hang the remaining 2 latches to the hooks on the sides of the indoor unit.(be careful not to let the swing motor lead wire get caught in the sealing material.)

(5). Screw all 4 hexagon head screws located right beneath the latches in approximately 15mm. (panel will rise)

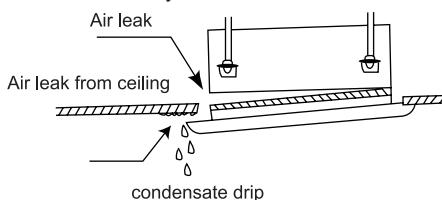
(6). Adjust the panel by turning it to the arrowed direction as below, so that the ceiling opening is completely covered.

(7). Tighten the screws until the thickness of the sealing material between the panel and the indoor unit body is reduced to 5~8 mm.

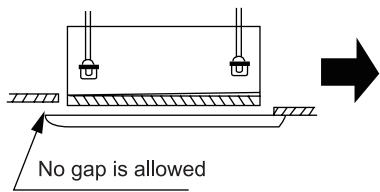


**Precautions:**

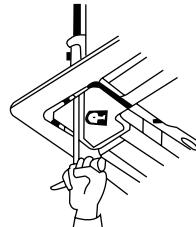
- ♦ Improper screwing of the screws may cause the troubles.



- ♦ If gap is still left between the ceiling and the panel after screwing the screws, readjust height of the indoor unit body.



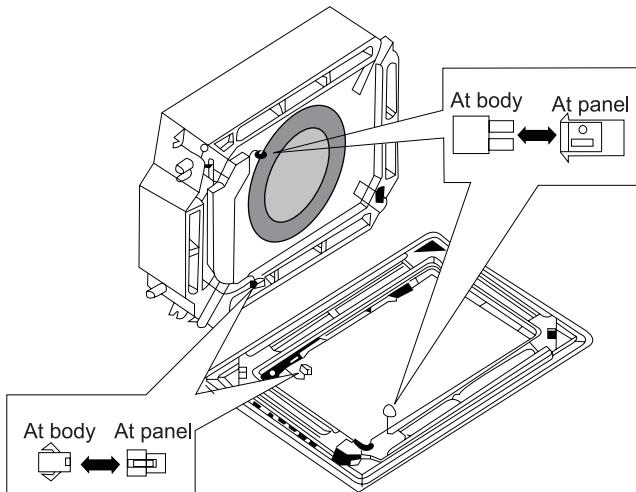
Adjustment of the indoor unit body from the holes in the corner of the panel is possible. If the indoor unit can always be kept horizontal and the drain pipe etc. will be unaffected.



After fixing, be sure no gap left between the ceiling and the panel.

- ♦ Wiring of the decoration panel.

Connect to joints for swing flap motor lead wire(an 2 places)installed on the panel.



## 8. Test operation

### 8.1 Prepare for test

- (1). Do not turn on the power switch before all installation is finished
- (2). Connect wires correctly and firmly.
- (3). Open the check valve.
- (4). Remove all dust.

### 8.2 Testing

- (1). Turn on the power switch and press "ON/OFF" button.
- (2). Press "MODE" button select COOL, HEAT,FAN, etc to test whether it operates normally.

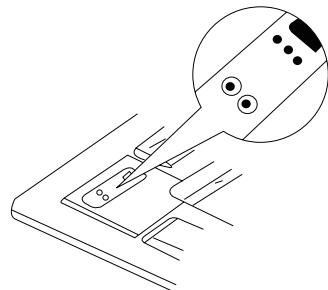
### 8.3 Emergency operation.

When the batteries fail or when the remote controller is missing, operate as shown below.

\*On stopping you can press the "AUTO" button on cover NO.II until it is in "AUTO" mode.

The air conditioner select from COOL,HEAT,FAN modes automatically.

\*On operating, press the "AUTO" button, the air conditioner will stop.



NOTE	The "TEST" button on the cover NO.II is specially for testing the air conditioner. When pressing it ,the air conditioner will forced to operate or stop. Do not press it when air conditioner is in normal operation.
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For the following items, take special care during construction and check after installation is finished.

Items to check	It not properly cone, what is likely to happen.	Check
Is the unit fixed firmly?	The unit may drop, vibrate or make noise.	
Is the gas leak test finished?	It may result in insufficient cooling.	
Is the unit fully insulated?	Condensate water may drop.	
Dose drainage flow smoothly?	Condensate water may drop.	
Dose the power supply voltage correspond to that shown on the nameplate?	The unit may malfunction the components burn out.	
Are wiring and piping correct?	The unit may malfunction the components burn out.	
Is the unit safely grounded?	Risk of electric leakage.	
Is wiring size according to specifications?	The unit may malfunction the components burn out.	
Is something blocking the air outlet or intake of either the indoor or outdoor units?	It may result in insufficient cooling.	

#### Note to installer

Be sure to instruct the customer how to operate the system and show him/her the attached operation manual.

**Take-back of electrical waste**  
**Information for Users to Disposal of electrical and electronic equipment**  
**(private households)**

Icon on the product or in the accompanying documentation means that used electric or electronic products must not be disposed together with domestic waste. For the correct disposal of the product hand it over to a place for take-back, where it is collected free of charge. By correct disposal of the product you can help to preserve valuable natural resources and help in preventing potential negative impacts to environment and human health, which could be consequence of incorrect disposal of waste. Ask for more details from local authorities, nearest collection point, in Waste Acts of respective country, in the Czech Republic in Act no. 185/2001 Coll., in the wording of later regulations. In case of incorrect disposal of this waste, a fine can be imposed according to national regulations.



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